

ORDINANCE NO. 1683

AN ORDINANCE OF THE CITY OF MILWAUKIE, OREGON, AMENDING ORDINANCE NUMBER 1438, THE ZONING ORDINANCE.

WHEREAS, the Milwaukie Comprehensive Plan identifies a goal, objectives, and policies for implementing an energy conservation element; and

WHEREAS, findings of fact have been identified in Exhibit A to support an amendment to the City of Milwaukie Zoning Ordinance text to implement energy conservation objectives and policies identified in the Comprehensive Plan;

NOW, THEREFORE, THE CITY OF MILWAUKIE DOES ORDAIN AS FOLLOWS:

Section 1. Findings. The findings of fact identified in Exhibit A are adopted.

Section 2. Zoning Ordinance Text Amendment. The Zoning Ordinance text of Ordinance 1438 is amended by inserting a new section to be known as Section 1700, Solar Access Protection, and reading as identified in Exhibit B.

Section 3. Adoption. The Zoning Ordinance text contained in Exhibit B shall take effect ninety (90) days after Council adoption of this Ordinance.

Read the first time on 6/19, 1990 and moved to second reading by 5-0 vote of the City Council.

Read the second time and adopted by the City Council on 6/19, 1990.

Signed by the Mayor on 6/21, 1990.

Roger Hall
Roger Hall, Mayor

ATTEST:

Jerri Widner
Jerri Widner, City Recorder

Approved as to form:

Tim Ramis
Tim Ramis, City Attorney

Findings of Fact
Ordinance No. 1683

1. The City finds that the provisions of Ordinance 1683 implement the following provisions of the Milwaukie Comprehensive Plan, effective December 7, 1989:

Goal Statement, Energy Conservation Element

To conserve energy by encouraging energy efficient land use patterns and transportation systems, and by encouraging the construction industry and private homeowners to participate in energy conservation programs.

Objective #3, Energy Conservation Element

To encourage the construction industry to construct energy efficient residential, commercial, and industrial facilities.

Objective #4, Energy Conservation Element

To encourage site design practices resulting in energy efficiency.

Policy 1, Objective #4, Energy Conservation Element

The City will review and consider adoption of the results of the Metropolitan Solar Access Committee recommendations when they become available.

Policy 2, Objective #4, Energy Conservation Element

The City will encourage street and site design which allows the orientation of structures to take maximum advantage of solar energy potential. Access to sunlight will be safeguarded.

Policy 3, Objective #4, Energy Conservation Element

The City will encourage the innovative use of alternative energy sources such as solar, wind, etc. on all existing and new residential, commercial and industrial developments.

2. The City further finds that adoption of Ordinance No. 1683 directly implements Policies 1, 2, and 3 cited above, in that said Ordinance has been reviewed and coordinated with the Metropolitan Solar Access Committee recommendations for solar access protection; said Ordinance implements site and design review procedures that encourage siting of residential structures in ways to allow maximum advantage of solar energy potential; said Ordinance provides individual property owners with a means to secure access to sunlight through a solar access permit procedure; and said Ordinance promotes and encourages the use of solar energy sources on residential property within the City.

3. The City further finds that adoption of this Ordinance implements the following provisions of the Milwaukie Comprehensive Plan, effective December 7, 1990:

Objective #2, Plan Review and Amendment Process Chapter

Implement this Plan through appropriate ordinances and action.

Policy 1, Objective #2, Plan Review and Amendment Process Chapter

Amend existing ordinances and adopt new ordinances to carry out the policies of this Plan as necessary.

4. The City further finds that adoption of this Ordinance promotes and encourages a regionwide approach to promotion of solar energy use, in that other jurisdictions within the Portland Metropolitan Region have, or are considering adoption of, similar provisions.

SECTION 1700

SOLAR ACCESS PROTECTION

1701 PURPOSE

1701.01 The purpose of this Section is:

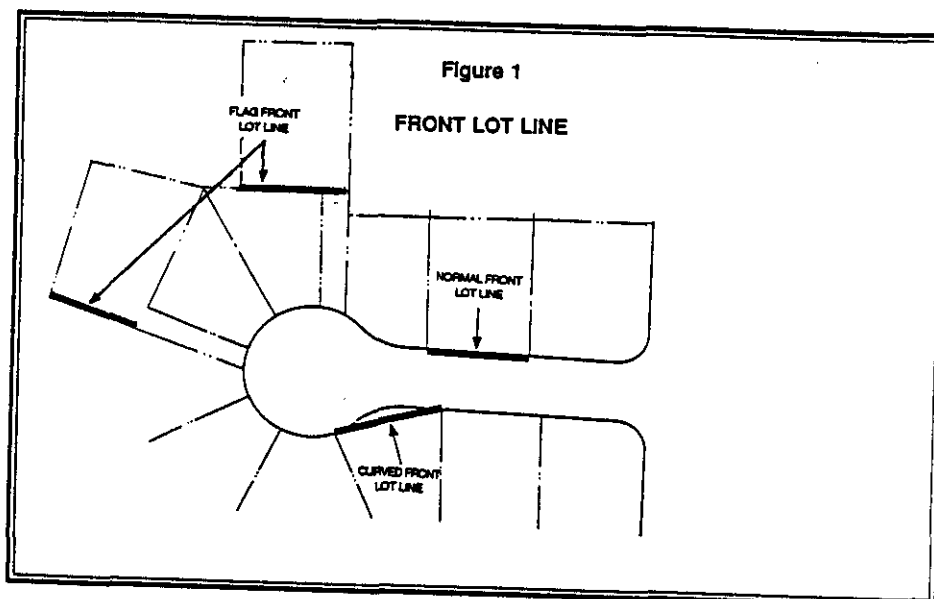
- A. To provide solar access protection to new development in subdivisions, new and remodeled single family homes, structures within single family zoning districts, and homes which make beneficial use of solar energy.
- B. To promote energy conservation and the effective use of the sun as a renewable resource.
- C. To implement provisions of the Milwaukie Comprehensive Plan encouraging use of solar energy.
- D. To provide a means of encouraging investment in solar design and solar equipment.

1702 DEFINITIONS

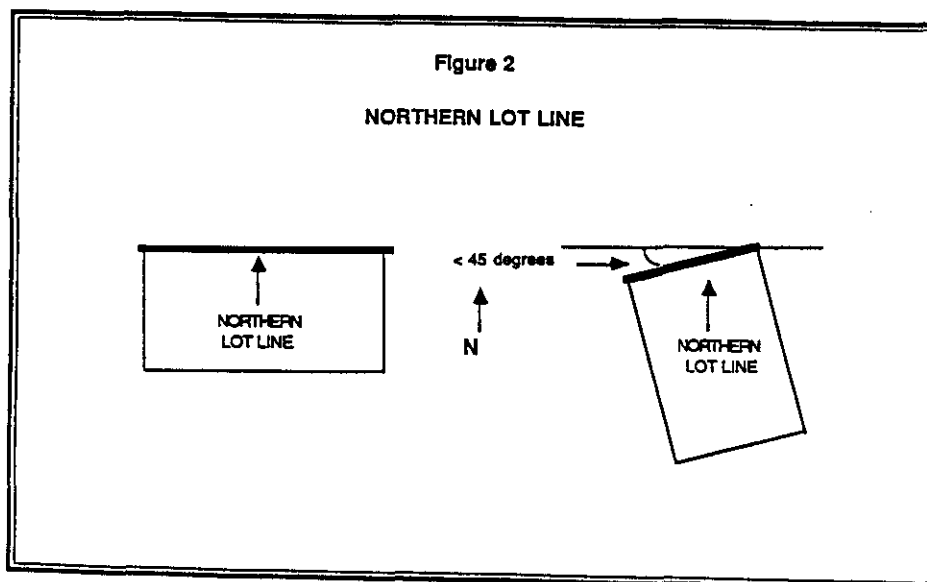
1702.01 For the purposes of this Section, the following definitions shall apply:

- A. Azimuth: A horizontal direction expressed as a distance in angles between the direction of a fixed point and the direction of an object being measured.
- B. Crown cover: The area within the drip line or perimeter of the foliage of a tree.
- C. Development: Any partition, subdivision, or planned unit development that is created under the City's land division or zoning regulations.
- D. Director: The Community Development Director of the City of Milwaukie or his or her designee.
- E. Exempt tree or vegetation: The full height and breadth of vegetation that the Director has identified as "solar friendly," any vegetation listed on a plat map, a document recorded with the plat, or a solar access permit as exempt.
- F. Front lot line: For purposes of the solar access regulations, a lot line abutting a street. For corner lots, the front lot line is that with the narrowest frontage. When the lot line abutting a street is curved, the front lot line is the chord or straight line connecting the ends of the curve. For a flag lot, the front lot line is the shortest lot line adjoining the pole portion of the lot, excluding the unbuildable portion of the pole (see Figure 1)

SECTION 1700 - SOLAR ACCESS ORDINANCE

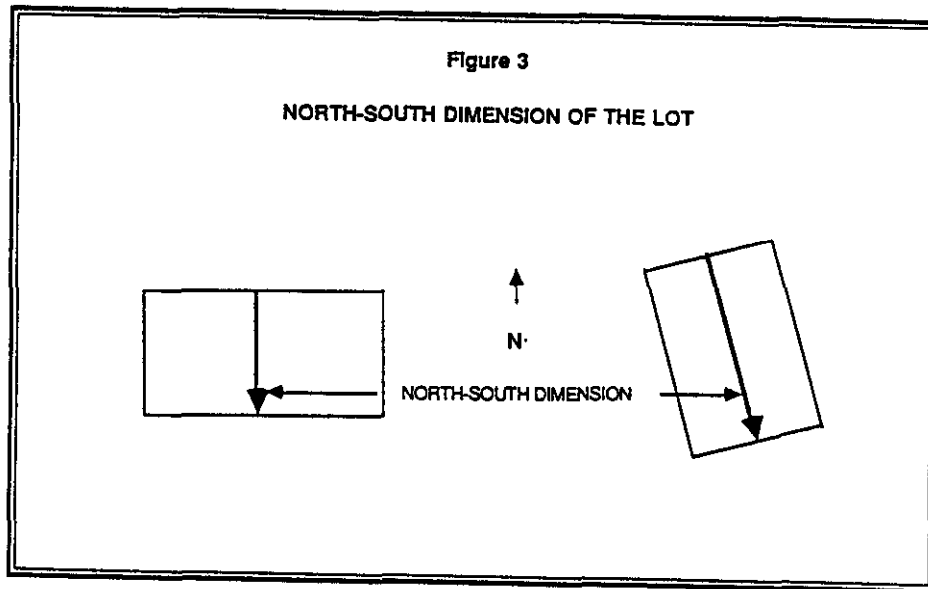


- F. Non-exempt tree or vegetation: Vegetation that is not exempt.
- G. Northern lot line: The lot line that is the smallest angle from a line drawn east-west and intersecting the northernmost point of the lot, excluding the pole portion of a flag lot. If the north line adjoins an undevelopable area other than a required yard area, the northern lot line shall be at the north edge of such undevelopable area. If two lot lines have an identical angle relative to a line drawn east-west, or if the northern lot line is less than 35 feet, then the northern lot line shall be a line 35 feet in length within the lot parallel with and at a maximum distance from the front lot line (see Figure 2).

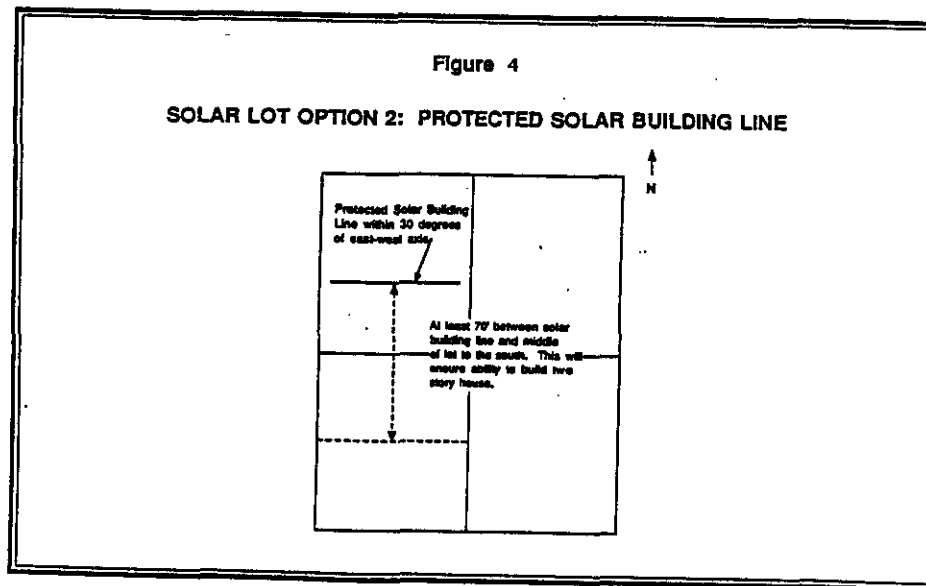


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- H. North-south dimension: The length of a line beginning at the mid-point of the northern lot line and extending in a southerly direction perpendicular to the northern lot line until it reaches a property boundary (see Figure 3).

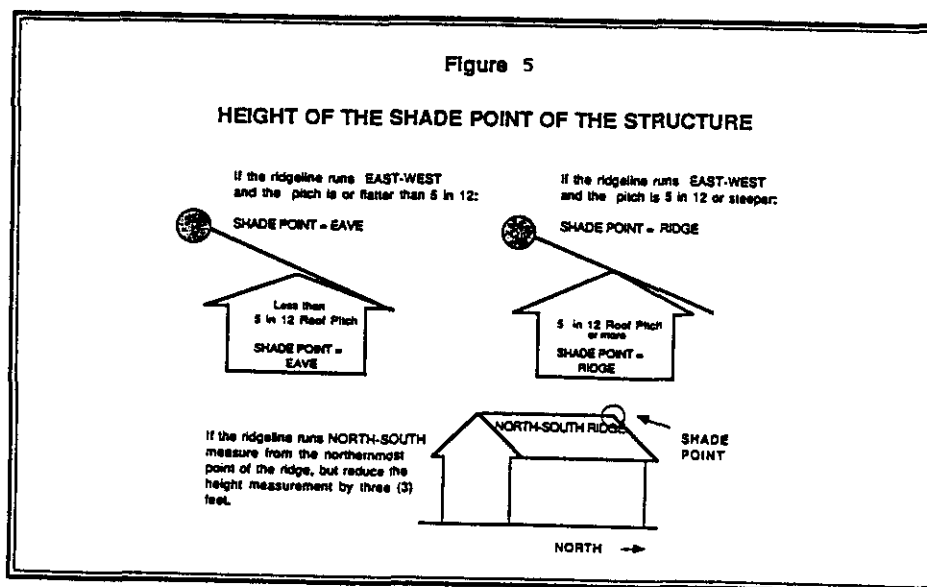


- I. Protected solar building line: A line on a plat or map recorded with the plat that identifies the location on a lot where a point two feet above may not be shaded by structures or non-exempt trees (see Figure 4).

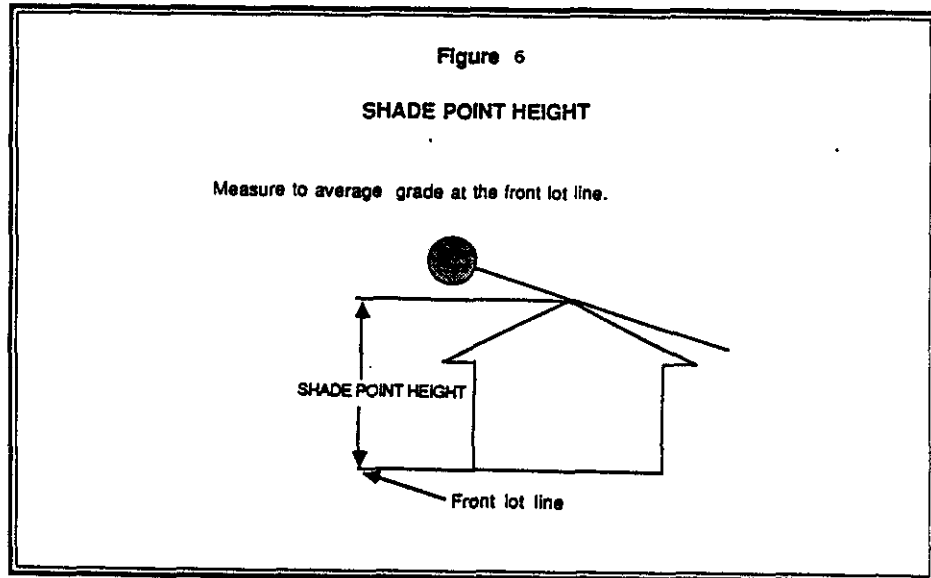


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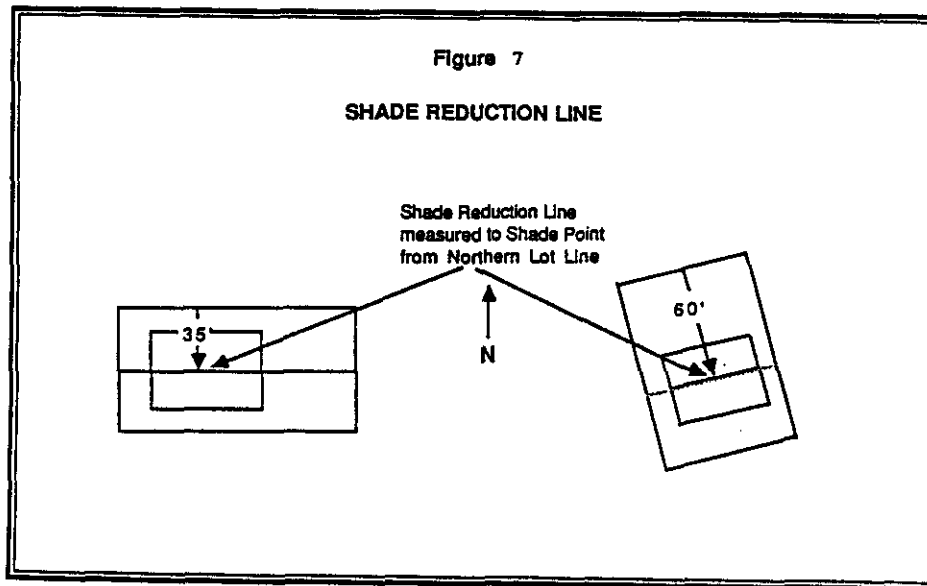
- J. **Shade:** A shadow cast by the shade point of a structure or vegetation when the sun is at an altitude of 21.3 degrees and an azimuth ranging from 22.7 degrees east and west of true south.
- K. **Shade point:** The part of a structure or non-exempt tree that casts the longest shadow onto the adjacent northern lot(s) when the sun is at an altitude of 21.3 degrees and an azimuth ranging from 22.7 degrees east and west of true south; except a shadow caused by a narrow object such as a mast or whip antenna, a dish antenna with a diameter of 3 feet or less, a chimney, utility pole, or wire. The height of the shade point shall be measured from the shade point to either the average elevation at the front lot line or the elevation at the mid-point of the front lot line. If the shade point is located at the north end of the ridgeline of a structure oriented within 45 degrees of a true north-south line, the shade point height computed according to the preceding sentence may be reduced by 3 feet. If a structure has a roof oriented within 45 degrees of a true east-west line with a pitch that is flatter than 5 feet (vertical) in 12 feet (horizontal) the shade point will be the eave of the roof. If such a roof has a pitch that is 5 feet in 12 feet or steeper, the shade point will be the peak of the roof (see Figures 5 and 6).



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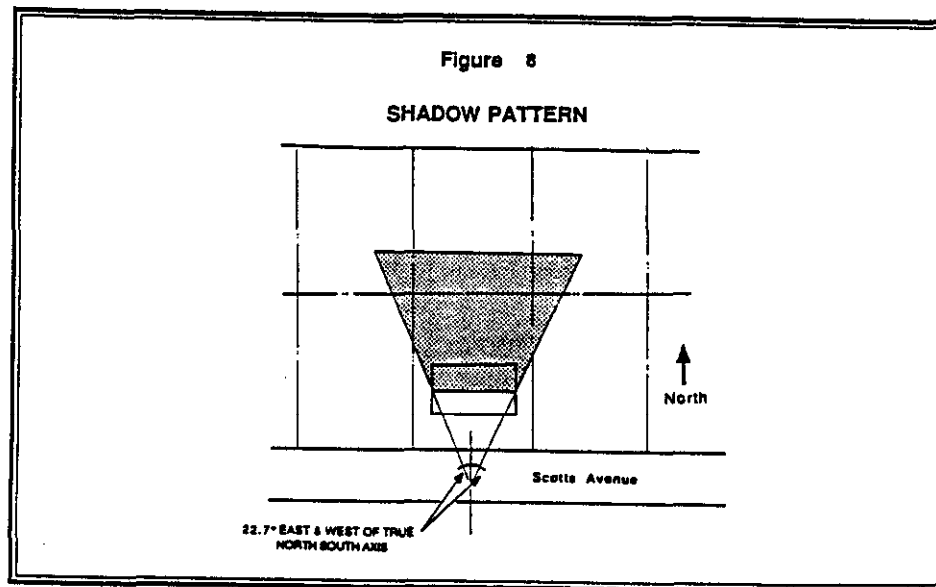


- L. **Shade reduction line:** A line drawn parallel to the northern lot line that intersects the shade point (see Figure 7).

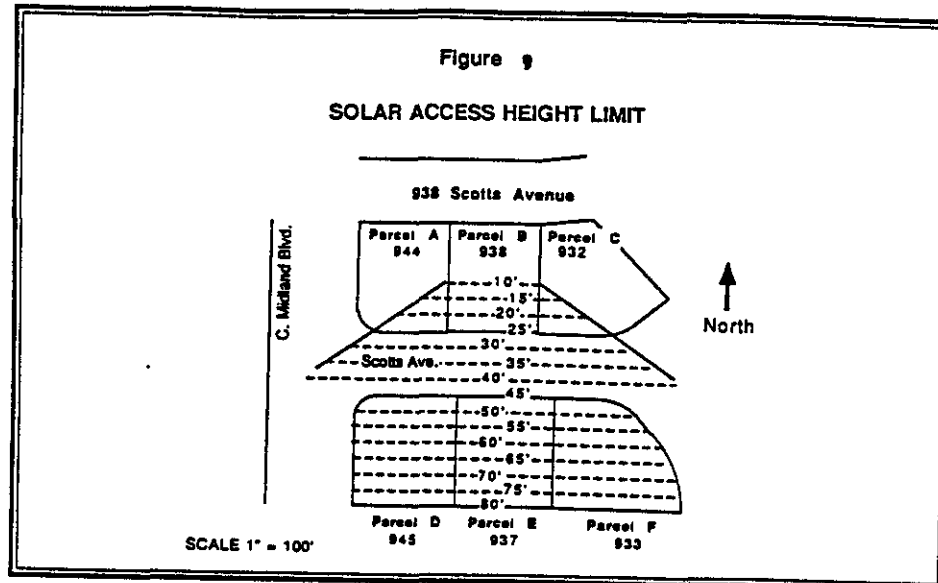


- M. **Shadow pattern:** A graphic representation of an area that would be shaded by the shade point of a structure or vegetation when the sun is at an altitude of 21.3 degrees and an azimuth ranging between 22.7 degrees east and west of true south (see Figure 8).

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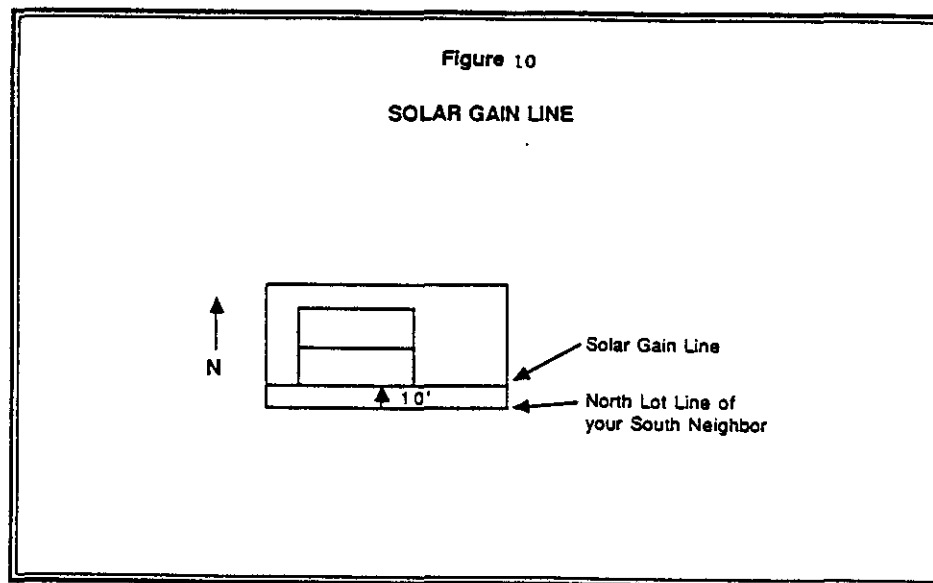
- O. Solar access height limit: A series of contour lines establishing the maximum permitted height for non-exempt vegetation on lots affected by a solar access permit (see Figure 9).



- P. Solar access permit: A document issued by the City that describes the maximum height that non-exempt vegetation is allowed to grow on lots to which a solar access permit applies.

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- Q. Solar feature: A device or combination of devices or elements that does or will use direct sunlight as a source of energy for such purposes as heating or cooling of a structure, heating or pumping of water, and generating electricity. Examples of a solar feature include a window that contains at least 20 square feet of glazing oriented within 45 degrees east and west of true south, a solar greenhouse, or a solar hot water heater. A solar feature may be used for purposes in addition to collecting solar energy, including but not limited to serving as a structural member or part of a roof, wall, or window. A south-facing wall without windows and without other features that use solar energy is not a solar feature for purposes of this Section.
- R. Solar friendly tree: A tree which the Director has determined does not cause significant winter shade due to foliar period and branch structure. The Director shall maintain a list of generally recognized solar friendly trees.
- S. Solar gain line: A line parallel to the northern property line(s) of the lot(s) south of and adjoining a given lot, including lots separated only by a street, that intersects the solar feature on that lot (see Figure 10).



- T. South or south facing: True south, or 20 degrees east of magnetic south.

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- T. Sunchart: One or more photographs that plot the position of the sun between 10:30 a.m. and 1:30 p.m. on January 21, prepared pursuant to guidelines issued by the Director. The sunchart shall show the southern skyline through a transparent grid on which is imposed solar altitude for 45 degree and 30 minute northern latitude in 10 degree increments and solar azimuth from true south in 15 degree increments.
- U. Undevelopable area: An area that cannot be used practicably for a habitable structure, because of natural conditions, such as slopes exceeding 20% in a direction greater than 45 degrees east and west of true south, severe topographic relief, water bodies, or conditions that isolate one portion of a property from another portion so that access is not practicable to the unbuildable portion; or manmade conditions, such as existing development which isolates a portion of the site and prevents its further development; setbacks or development restrictions that prohibit development of a given area of a lot by law or private agreement; or existence or absence of easements or access rights that prevent development of a given area.

1703 SOLAR ACCESS FOR NEW DEVELOPMENT

1703.01 Purpose

The purposes of solar access provisions for new development are to ensure that land is divided so that structures can be oriented to maximize solar access and to minimize shade on adjoining properties from structures and trees.

1703.02 Applicability

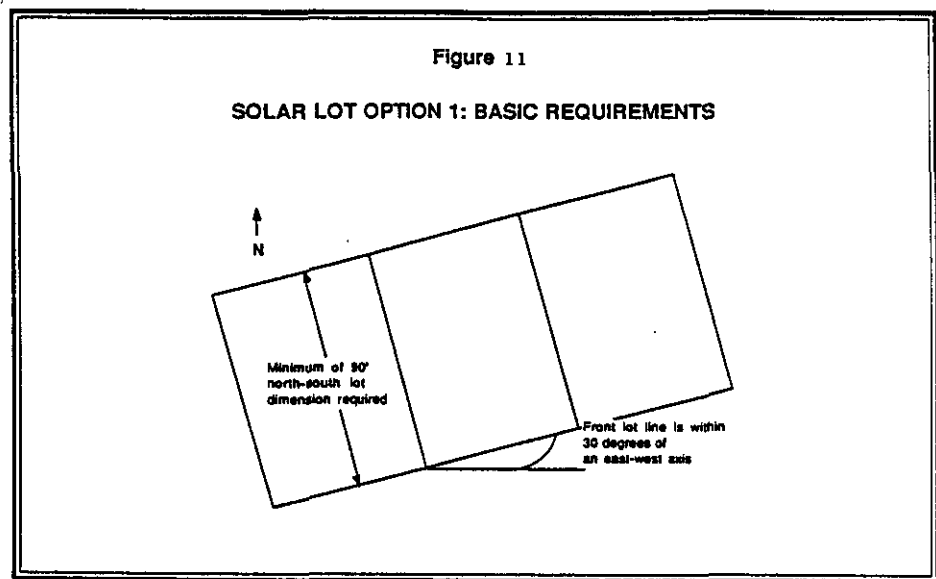
The solar design standards in subsection 1703.03 shall apply to applications for a development to create lots in single family zones and for single family detached dwellings in any zone, except to the extent the Director finds that the applicant has shown one or more of the conditions listed in subsections 1703.04 and 1703.05 exist, and exemptions or adjustments provided for therein are warranted.

1703.03 Design Standard

At least 80 percent of the lots in a development subject to these provisions shall comply with one or more of the options in this subsection; provided, a development may, but is not required to, use the options in subsections 1703.03.B or 1703.03.C to comply with Section 1703.

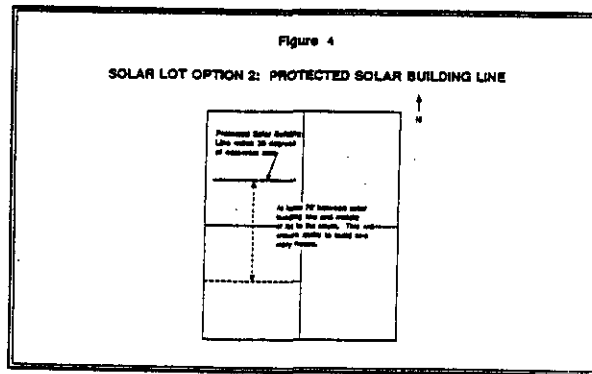
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- A. **Basic Requirement.** A lot complies with subsection 1703.03 if it:
1. Has a north-south dimension of 90 feet or more; and
 2. Has a front lot line that is oriented within 30 degrees of a true east-west axis (see Figure 11).



- B. **Protected Solar Building Line Option.** In the alternative, a lot complies with subsection 1703.03 if a solar building line is used to protect solar access as follows:
1. A protected solar building line is designated on the plat or in documents recorded with the plat; and
 2. The protected solar building line is oriented within 30 degrees of a true east-west axis; and
 3. There is at least 70 feet between the protected solar building line and the middle of the north-south dimension of the lot to the south, measured along a line perpendicular to the protected solar building line; and
 4. There is at least 45 feet between the protected solar building line and the northern edge of the buildable area of the lot, or habitable structures are situated so that at least 80 percent of their south-facing wall will not be shaded by structures or non-exempt vegetation (see Figure 4).

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- C. Performance Option. In the alternative, a lot complies with subsection 1703.03 if:
1. Habitable structures built on that lot will have their long axis oriented within 30 degrees of a true east-west axis, and at least 80% of their ground floor south wall will be protected from shade by structures and non-exempt trees using appropriate deed restrictions; or
 2. Habitable structures built on that lot will orient at least 32% of their glazing and at least 500 square feet of their roof area to face within 30 degrees east or west of true south, and that glazing and roof area are protected from shade by structures and non-exempt trees using appropriate deed restrictions.

1703.04 Exemptions from Design Standard

A development is exempt from subsection 1703.03 if the Director finds the applicant has shown that one or more of the following conditions apply to the site. A development is partially exempt from subsection 1703.03 to the extent the Director finds the applicant has shown that one or more of the following conditions apply to a corresponding portion of the site. If a partial exemption is granted for a given development, the remainder of the development shall comply with subsection 1703.03.

- A. Slopes. The site, or a portion of the site for which the exemption is sought, is sloped 20 percent or more in a direction greater than 45 degrees east or west of true south, based on a topographic survey by a licensed professional land surveyor or USGS or other officially recognized topographic information.

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- B. Off-site shade. The site, or a portion of the site for which the exemption is sought, is within the shadow pattern of off-site features, such as, but not limited to, structures, topography, or non-exempt vegetation, which will remain after development occurs on the site from which the shade is originating.
1. Shade from an existing or approved off-site dwelling in a single family residential zone and from topographic features is assumed to remain after development of the site.
 2. Shade from an off-site structure in a zone other than a single family residential zone is assumed to be the shadow pattern of the existing or approved development thereon or the shadow pattern that would result from the largest structure allowed at the closest setback on adjoining land, whether or not that structure now exists.
 3. Shade from off-site vegetation is assumed to remain after development of the site if: the trees that cause it are situated in a required setback; or they are part of a developed area, public park, or legally reserved open space; or they are in or separated from the developable remainder of a parcel by an undevelopable area or feature; or they are part of landscaping required pursuant to local law.
 4. Shade from other off-site sources is assumed to be shade that exists or that will be cast by development for which applicable local permits have been approved on the date a complete application for the development is filed.
- C. On-site shade. The site, or a portion of the site for which the exemption is requested, is:
1. Within the shadow pattern of on-site features such as, but not limited to structures and topography which will remain after the development occurs; or
 2. Contains non-exempt trees at least 30 feet tall and more than 6 inches in diameter measured 4 feet above the ground which have a crown cover over at least 80% of the site, or the relevant portion. The applicant can show such crown cover exists using a scaled survey or an aerial photograph. If granted, the exemption shall be approved subject to the condition that the applicant preserve at least 50% of the crown cover that causes the shade that warrants the exemption. The applicant shall file a note on the plat or other documents in the Office of the County Recorder binding the applicant to comply with this

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requirement. The City shall be made a party to any covenant or restriction created to enforce any provision of this Section. The covenant or restriction shall not be amended without written City approval.

- D. Completion of phased subdivision. The site is part of a phased subdivision none of which was subject to Section 1703, and the site and the remainder of the unplatted portion of the phased subdivision contain no more than 20 percent of the lots in all phases of the subdivision.

1703.05 Adjustments to Design Standard

The Director shall reduce the percentage of lots that must comply with subsection 1703.03 to the minimum extent necessary if he or she finds the applicant has shown it would cause or is subject to one or more of the following conditions.

A. Adverse impacts on density and cost or amenities.

- 1. If the design standard in subsection 1703.03.A is applied, either the resulting density is less than that proposed, or on-site site development costs (e.g. grading, water, storm drainage and sanitary systems, and road) and solar related off-site site development costs are at least 5% more per lot than if the standard is not applied. The following conditions, among others, could constrain the design of a development in such a way that compliance with subsection 1703.03.A would reduce density or increase per lot costs in this manner. The applicant shall show which if any of these or other similar site characteristics apply in an application for a development.
 - a. The portion of the site for which the adjustment is sought has a natural grade that is sloped 10 percent or more and is oriented greater than 45 degrees east or west of true south based on a topographic survey of the site by a professional land surveyor or USGS or other officially recognized topographic information.
 - b. There is a significant natural feature on the site, identified as such in the comprehensive plan or development ordinance, that prevents given streets or lots from being oriented for solar access, and it will exist after the site is developed.

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- c. Existing road patterns must be continued through the site or must terminate on-site to comply with applicable road standards or public road plans in a way that prevents given streets or lots in the development from being oriented for solar access.
 - d. An existing public easement or right-of-way prevents given streets or lots in the development from being oriented for solar access.
 2. If the design standard in subsection 1703.03.A applies to a given lot or lots, significant development amenities that would otherwise benefit the lot(s) will be lost or impaired. Evidence that a significant diminution in the market value of the lot(s) would result from having the lot(s) comply with subsection 1703.03.A is relevant to whether a significant development amenity is lost or impaired.
- B. Impacts of existing shade. The shadow pattern from non-exempt trees cover over at least 80% of the lot and at least 50% of the shadow pattern will remain after development of the lot. The applicant can show the shadow pattern using a scaled survey of non-exempt trees on the site or using an aerial photograph.
 1. Shade from non-exempt trees is assumed to remain if: the trees are situated in a required setback; or they are part of an existing or proposed park, open space, or recreational amenity; or they are separated from the developable remainder of their parcel by an undevelopable area or feature; or they are part of landscaping required pursuant to local law; and they do not need to be removed for a driveway or other development.
 2. Also, to the extent the shade is caused by on-site trees or off-site trees on land owned by the applicant, it is assumed to remain if the applicant files in the Office of the County Recorder a covenant binding the applicant to retain the trees causing the shade on the affected lots.

1703.06 Protection from Future Shade

Structures and non-exempt vegetation must comply with Section 1704 on all lots in a development subject to Section 1703, including lots for which exemptions or adjustments to Section 1703 have been granted.

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The applicant shall file a note on the plat or other documents in the Office of the County Recorder binding the applicant and subsequent purchasers to comply with the future shade protection standards in subsection 1703.06. The City shall be made a party of any covenant or restriction created to enforce any provision of this Section. The covenant or restriction shall not be amended without written City approval.

1703.07 Application

An application for approval of a development subject to this Section shall include:

- A. Maps and text sufficient to show the development complies with the solar design standard of subsection 1703.03, except for lots for which an exemption or adjustment from subsection 1703.03 is requested, including at least:
 - 1. The north-south lot dimension and front lot line orientation of each proposed lot.
 - 2. Protected solar building lines and relevant building site restrictions, if applicable.
 - 3. For the purpose of identifying trees exempt from subsection 1703.06, a map showing existing trees at least 30 feet tall and over 6 inches diameter at a point 4 feet above grade, indicating their height, diameter and species, and stating that they are to be retained and are exempt.
 - 4. Copies of all private restrictions relating to solar access.
- B. If an exemption or adjustment to subsection 1703.03 is requested, maps and text sufficient to show that given lots or areas in the development comply with the standards for such an exemption or adjustment in subsection 1703.04 or 1703.05, respectively.

1703.08 Process for Approval

Requirements for meeting this Section shall be processed simultaneously with other application requirements as provided by this Ordinance, or in conjunction with building permit requests. The City's decision whether or not to grant approval is intended to be ministerial.

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1704 SOLAR BALANCE POINT

1704.01 Purpose

The purposes of this Section are to promote the use of solar energy, to minimize shading of structures by structures and accessory structures, and, where applicable, to minimize shading of structures by trees. Decisions related to this Section are intended to be ministerial.

1704.02 Applicability

This Section applies to an application for a building permit for all structures in single family zones and all single family detached structures in any zone, except to the extent the Director finds the applicant has shown that one or more of the conditions listed in subsections 1704.05 or 1704.06 exists, and exemptions or adjustments are warranted. In addition, non-exempt vegetation planted on lots subject to the provisions of subsection 1703.06 shall comply with the shade point height standards as provided in subsections 1704.05 and 1704.06 below.

1704.03 Solar Site Plan Required

An applicant for a building permit for a structure subject to this Section shall submit a site plan that shows:

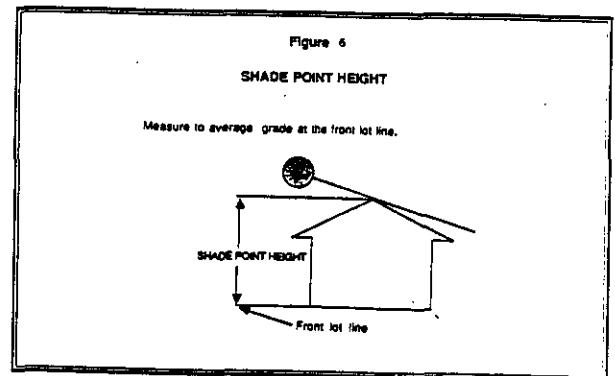
- A. The maximum shade point height allowed under Section 1704.04;
- B. If the maximum shade point height is adjusted pursuant to subsection 1704.04.A.2, the average elevation of the rear property line;
- C. The location of the shade point, its height relative to the average elevation of the front lot line or the elevation at the midpoint of the front lot line, and its orientation relative to true south; and, if applicable,
- D. The solar balance point for the structure as provided in subsection 1704.08.

1704.04 Maximum Shade Point Height Standard

A. Basic Requirement.

1. The height of the shade point shall be less than or equal to the height specified in Table A or computed using the following formula. The height of the shade point shall be measured from the shade point to either the average elevation at the front lot line or the elevation at the mid-point of the front lot line. If necessary interpolate between the 5 foot dimensions listed in Table A.

Where: H = the maximum allowed height of the shade point (see Figures 5 and 6);
SRL = shade reduction line (the distance between the shade point and the northern lot line, see Figure 7); and
N = the north-south lot dimension, provided that a north-south lot dimension more than 90 feet shall use a value of 90 feet for this Section.



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2. Provided, the maximum allowed height of the shade point may be increased one foot above the amount calculated using the formula or Table A for each foot that the average grade at the rear property line exceeds the average grade at the front property line.

TABLE A - MAXIMUM PERMITTED SHADE POINT HEIGHT (in Feet)													
Distance to Shade Reduction Line from northern lot line (in feet)	North-south lot dimension (in feet)												
	100+	95	90	85	80	75	70	65	60	55	50	45	40
70	40	40	40	41	42	43	44						
65	38	38	38	39	40	41	42	43					
60	36	36	36	37	38	39	40	41	42				
55	34	34	34	35	36	37	38	39	40	41			
50	32	32	32	33	34	35	36	37	38	39	40		
45	30	30	30	31	32	33	34	35	36	37	38	39	
40	28	28	28	29	30	31	32	33	34	35	36	37	38
35	26	26	26	27	28	29	30	31	32	33	34	35	36
30	24	24	24	25	26	27	28	29	30	31	32	33	34
25	22	22	22	23	24	25	26	27	28	29	30	31	32
20	20	20	20	21	22	23	24	25	26	27	28	29	30
15	18	18	18	19	20	21	22	23	24	25	26	27	28
10	16	16	16	17	18	19	20	21	22	23	24	25	26
5	14	14	14	15	16	17	18	19	20	21	22	23	24

- B. Performance Option. The proposed structure, or applicable non-exempt vegetation, will shade not more than 20 percent of the south-facing glazing of existing habitable structure(s), or, where applicable, the proposed structure or non-exempt vegetation comply with subsection 1703.03.B or 1703.03.C. If subsection 1703.03.B, Protected Solar Building Line, is used, non-exempt trees and the shade point of structures shall be set back from the protected solar building line 2.5 feet for every 1 foot of height of the structure or of the mature height of non-exempt vegetation over 2 feet.

1704.05 Exemption from the Maximum Shade Point Height Standard

The Director shall exempt a proposed structure or non-exempt vegetation from subsections 1704.03 and 1704.04 if the applicant shows that one or more of the conditions in this subsection exist, based on plot plans or plats, corner elevations or other topographical data, shadow patterns, suncharts or photographs, or other substantial evidence submitted by the applicant.

- A. Exempt Lot. When created, the lot was subject to subsection 1703.03 and was not subject to the provisions of Section 1703.06.

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- B. Pre-existing shade. The structure or applicable non-exempt vegetation will shade an area that is shaded by one or more of the following:
 - 1. An existing or approved building or structure;
 - 2. A topographic feature; or
 - 3. A non-exempt tree that will remain after development of the site. It is assumed a tree will remain after development if it: is situated in a building setback required by local law; is part of a developed area or landscaping required by local law, a public park or landscape strip, or legally reserved open space; is in or separated from the developable remainder of a parcel by an undevelopable area or feature; or is on the applicant's property and not affected by the development. A duly executed covenant also can be used to preserve trees causing such shade.
- C. Slope. The site has an average slope that exceeds 20 percent in a direction greater than 45 degrees east or west of true south based on a topographic survey by a licensed professional land surveyor or USGS or other officially recognized topographic information.
- D. Insignificant benefit. The proposed structure or non-exempt vegetation shades one or more of the following:
 - 1. An undevelopable area;
 - 2. The wall of an unheated space, such as a typical garage;
 - 3. Less than 20 square feet of south-facing glazing; or
 - 4. An undeveloped lot, other than a lot that was subject to Section 1703, where:
 - a. There are at least four single family detached or attached homes within 250 feet of the lot within the same subdivision or a phase of the subdivision; and
 - b. A majority of the homes identified in subsection 4.a above have an average of less than 20 square feet of south-facing glazing.
- E. Public Improvement. The proposed structure is a publicly owned improvement.

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1704.06 Adjustments to the Maximum Shade Point Height Standard

The Director shall increase the maximum permitted height of the shade point determined using subsection 1704.04 to the extent he or she finds the applicant has shown one or more of the following conditions exist, based on plot plans or plats, corner elevations or other topographical data, shadow patterns, suncharts or photographs, or other substantial evidence submitted by the applicant.

- A. Physical conditions. Physical conditions preclude development of the site in a manner that complies with subsection 1704.04, due to such things as a lot size less than 3,000 square feet, unstable or wet soils, or a drainage way, public or private easement, or right-of-way.
- B. Conflict between the Maximum Shade Point Height and Allowed Shade on the Solar Feature Standards. A proposed structure may be sited to meet the solar balance point standard described in subsection 1704.08 or be sited as near to the solar balance point as allowed by subsection 1704.08, if:
 1. When the proposed structure is sited to meet the maximum shade point height standard determined using subsection 1704.04, its solar feature will potentially be shaded as determined using subsection 1704.07; and
 2. The application includes a form provided for that purpose by the City that:
 - a. Releases the applicant from complying with subsection 1704.04 and agrees that the proposed structure may shade an area otherwise protected by subsection 1704.04.
 - b. Releases the City from liability for damages resulting from the adjustment; and
 - c. Is signed by the owner(s) of the properties that would be shaded by the proposed structure more than allowed by the provisions of subsection 1704.04.
 3. Before the City issues a permit for a proposed structure for which an adjustment has been granted pursuant to subsection 1704.06.B, the applicant shall file the form provided for in subsection B.2 above in the Office of the County Recorder with the deeds to the affected properties.

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1704.07 Analysis of Allowed Shade on Solar Feature

- A. An applicant may, but is not required to, perform the calculations in or comply with the standards of this Section.
- B. Applicants are encouraged to design and site a proposed habitable structure so that the lowest height of any solar feature(s) will not be shaded by buildings or non-exempt trees on lot(s) to the south. The applicant should complete the following calculation procedure to determine if solar feature(s) of the proposed structure will be shaded. To start, the applicant should choose which of the following sources of shade originating from adjacent lot(s) to the south to use to calculate the maximum shade height at the north property line:
 1. Existing structure(s) or non-exempt trees; or
 2. The maximum shade that can be cast from future buildings or non-exempt trees, based on Table C. If the lot(s) to the south can be further divided, then the north-south dimension is assumed to be the minimum lot width required for a new lot in that zone.
- C. The height of the lowest point of any solar feature of the proposed structure is calculated with respect to either the average elevation or the elevation at the midpoint of the front lot line of the lot to the south.
- D. The applicant can determine the height of the shadow that may be cast upon the applicant's solar feature by the source of shade selected in subsection B by using the following formula or Table B.

$$\text{SFSH} = \text{SH} - (\text{SGL}/2.5)$$

Where:

- SFSH = the allowed shadow height on the solar feature
(see Figure 12)
- SH = the height of the shade at the northern lot line of
lot(s) to the south as determined in subsection
1704.07.B
- SGL = the solar gain line (the distance from the solar
feature to the northern lot line of adjacent lot(s)
to the south, see Figure 10)

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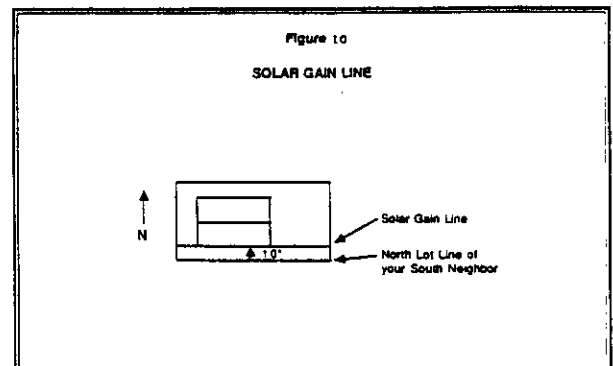
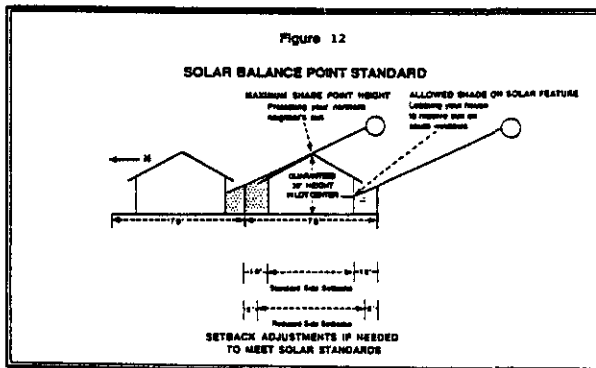


TABLE B - MAXIMUM PERMITTED HEIGHT OF SHADOW AT SOLAR FEATURE (feet)

Distance from Solar Gain Line to lot line (feet)	Allowed Shade Height at Northern Lot Line of Adjacent Lot(s) to the South (feet)										
	22	21	20	19	18	17	16	15	14	13	12
50	2	1									
45	4	3	2	1							
40	6	5	4	3	2	1					
35	8	7	6	5	4	3	2	1			
30	10	9	8	7	6	5	4	3	2	1	
25	12	11	10	9	8	7	6	5	4	3	2
20	14	13	12	11	10	9	8	7	6	5	4
15	16	15	14	13	12	11	10	9	8	7	6
10	18	17	16	15	14	13	12	11	10	9	8
5	20	19	18	17	16	15	14	13	12	11	10

Table C may be used to determine (SH) in the above formula.

TABLE C

North-south lot dimension of adjacent lot(s) to the south	100	95	90	85	80	75	70	65	60	55	50	45	40
Allowed shade height at the north property line of adjacent lot(s) to south	12	12	12	13	14	15	16	17	18	19	20	21	22

- E. If the allowed shade height on the solar feature calculated in subsection D is higher than the lowest height of the solar feature calculated in subsection C, the applicant shall be encouraged to consider changes to the house design or location which would make it practical to locate the solar feature so that it will not be shaded in the future.

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1704.08 Solar Balance Point

If a structure does not comply with maximum shade point height standard in subsection 1704.04 and the allowed shade on a solar feature standard in subsection 1704.07, then the solar balance point of the lot shall be calculated. The solar balance point is the point on the lot where a structure would be the same from complying with both of these standards.

1704.09 Yard Setback Adjustment

The City shall grant an adjustment to the side, front, and/or rear yard setback requirement(s) by up to 50% if necessary to build a proposed structure so it complies with either the shade point height standard in subsection 1704.04, the allowed shade on a solar feature standard in subsection 1704.07, or the solar balance point standard in subsection 1704.08. This adjustment is not intended to encourage reductions in available solar access or unnecessary modification of setback requirements, and shall apply only if necessary for a structure to comply with the applicable provisions of Section 1700.

A. R-1, R-2, R-2.5, R-3, R-5, and R-7 Zones:

1. A front yard setback may be reduced to not less than 10 feet.
2. A rear yard setback may be reduced to not less than 10 feet.
3. A side yard setback may be reduced to not less than 3 feet.

B. R-10 Zone:

1. A front yard setback may be reduced to not less than 15 feet.
2. A rear yard setback may be reduced to not less than 15 feet.
3. A side yard setback may be reduced to not less than 5 feet.

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1704.10 Application and Review Process

An application for a building permit shall include the information necessary to meet the provisions of subsection 1704.04, and shall be processed pursuant to Section 10.05(A) of this Ordinance. The Building Official shall refer the plan to the Director for review and approval prior to issuing a building permit, or the Director may delegate this responsibility for review and approval to the Building Official.

1705 SOLAR ACCESS PERMIT

1705.01 Purpose

The purpose of this Section is to protect solar access to solar features on lots designated or used for a single family detached dwelling under some circumstances. It authorizes owners of such lots to apply for a certification permit that, if granted, prohibits solar features from being shaded by certain future vegetation on and off the permittee's site.

1705.02 Applicability

An owner or contract purchaser of property may apply for and/or be subject to a solar access permit for a solar feature if that property is in a single family zone, or is or will be developed with a single family dwelling. The City's decision whether or not to grant a solar access permit is intended to be ministerial.

1705.03 Approval Standards for a Solar Access Permit

The Director shall approve an application for a solar access permit if the applicant shows:

- A. The information contained in the application is complete and accurate; and
- B. Non-exempt vegetation on the applicant's property does not shade the solar feature, as demonstrated by the site plan submitted and the specific information required in subsection 1705.05.

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1705.04 Duties Created by Solar Access Permit

- A. A party to whom the City grants a solar access permit shall:
 - 1. Record the permit, legal descriptions of the properties affected by the permit, the solar access height limit, and the site plan required in subsection 1705.05.C with such modifications as required by the Director in the Office of the County Recorder with the deeds to the properties affected by it, indexed by the names of the owners of the affected properties, and shall pay the fees for such filing;
 - 2. Install the solar feature in a timely manner as provided in subsection 1705.08; and
 - 3. Maintain non-exempt vegetation on the site so it does not shade the solar feature.
- B. An owner of property burdened by a solar access permit shall be responsible and pay all costs for keeping non-exempt vegetation from exceeding the solar access height limit. However, vegetation identified as exempt on the site plan required in subsection 1705.05.C, vegetation an owner shows was in the ground on the date an application for a solar access permit is filed, and solar friendly vegetation are exempt from the solar access permit.

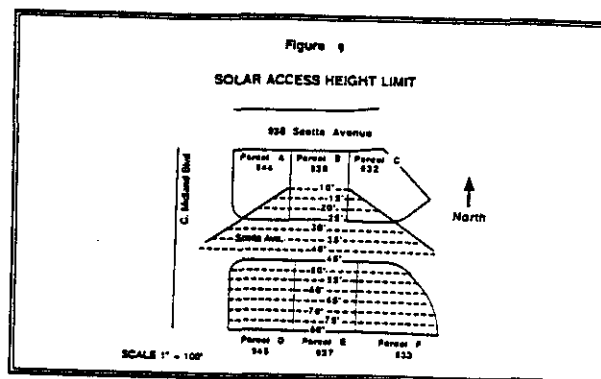
1705.05 Application Contents

An application for a solar access permit shall contain the following information:

- A. A legal description of the applicant's lot and a legal description, owners' names, and owners' addresses for lots all or a portion of which are within 150 feet of the applicant's lot and 54 degrees east and west of true south measured from the east and west corners of the applicant's south lot line. The records of the County Assessor's Office shall be used to determine who owns property for purposes of an application. The failure of a property owner to receive notice shall not invalidate the action if a good faith attempt was made to notify all persons who may be affected.
- B. A scaled plan of the applicant's property showing:
 - 1. Vegetation in the ground as of the date of the application if, when mature, that vegetation could shade the solar feature.

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2. The approximate height above grade of the solar feature, its location, and its orientation relative to true south.
- C. A scaled plan of the properties on the list required in subsection A above showing:
 1. Their approximate dimensions; and
 2. The approximate location of all existing vegetation on each property that could shade the solar feature(s) on the applicant's property.
- D. For each affected lot, the requested solar access height limit. The solar access height limit is a series of contour lines establishing the maximum permitted height for non-exempt vegetation on lots affected by a solar access permit (see Figure 9). The contour lines begin at the bottom edge of a solar feature for which a permit is requested and rise in five foot increments at an angle to the south not less than 21.3 degrees from the horizon and extend not more than 54 degrees east and west of true south. Notwithstanding the preceding, the solar access height limit at the northern lot line of any lot burdened by a solar access permit shall allow non-exempt vegetation on that lot whose height causes no more shade on the benefitted property than could be caused by a structure that complies with the solar balance point provisions for existing lots.



- E. A fee as required by the City.
- F. If available, a statement signed by the owner(s) of some or all of the property(ies) to which the permit will apply if granted verifying that the vegetation shown on the plan submitted pursuant to subsection 1705.05.C above accurately represents vegetation in the ground on the date of the application. The City shall provide a form for that purpose. The signed statements provided for herein are permitted but not required for a complete application.

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1705.06 Application Review Process

- A. Unless waived by the Director, prior to filing an application for a solar access permit, an applicant or applicant's representative shall pay the fee required by subsection 1705.05.E and shall meet with the Director or his or her designate to discuss the proposal and the requirements for an application. If a meeting is held, the Director shall convey a written summary of the meeting to the applicant by mail within 5 calendar days of the meeting.
- B. After the pre-application meeting is held or waived, the applicant may file an application containing the information required in subsection 1705.05 above.
- C. Within 7 calendar days after an application is filed, the Director or his or her designate shall determine whether the application is complete and if it is not complete, notify the applicant in writing, and specify what is required to make it complete.
- D. Within 14 calendar days after the Director decides an application for a solar access permit is complete, the Director or his or her designate shall issue a written decision tentatively approving or denying the request, together with reasons therefore, based on the standards of subsection 1705.03.
 1. If the tentative decision is to deny the permit, the Director shall mail a copy of the decision to the applicant.
 2. If the tentative decision is to approve the permit, and the owners of all affected properties did verify the accuracy of the plot plan as authorized under subsection 1705.05.F, the Director shall mail a copy of the decision to the applicant and affected parties by certified mail, return receipt requested.
 3. If the tentative decision is to approve the permit, and the owners of all affected properties did not verify the accuracy of the plot plan as permitted under subsection 1705.05.F, the Director shall send a copy of the tentative decision by certified mail, return receipt requested, to the applicant and to the owners of affected properties who did not sign the verification statement pursuant to subsection 1705.05.F. If the Director determines that the owners of a given property affected by the permit are not the occupants of that property, then the Director also shall send a copy of the notice to the occupants of such property.

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- a. The notice sent to the applicant shall include a sign that says a solar access permit for the property has been tentatively approved, and that informs readers where to obtain more information about it. The applicant shall be instructed to conspicuously post the sign so it is visible from right-of-way adjoining the property, and to sign and return a form provided by the Director certifying that the sign was posted as provided herein not more than 14 days after the tentative decision was mailed.
 - b. The notice shall include the plot plans required in subsections 1705.05.B and 1705.05.C above, the proposed solar access height limits, and duties created by the permit.
 - c. The notice shall request recipients to verify that the plot plan shows all non-exempt vegetation on the recipient's property, and to send the Director comments in writing within 14 calendar days after the tentative decision is mailed if the recipient believes the applicant's plot plan is inaccurate.
4. Within 28 days after notice of a tentative decision is mailed to affected parties, the Director shall consider responses received from affected parties and/or an inspection of the site, modify the plot plan and the permit to be consistent with the accurate information, and issue a final decision. The Director shall send a copy of the permit and solar access height limits to the owners of each property affected by the permit by certified mail, return receipt requested.
- E. If the application is approved, and before the permit is effective, the applicant shall record the permit, associated solar access height limits, legal descriptions for the affected properties, and the site plan required in subsection 1705.05.C with such modifications as required by the Director in the Office of the County recorder with the deeds to the properties affected by it.

1705.07 Permit Enforcement Process

- A. Enforcement request. A solar access permittee may request the City to enforce the solar access permit by providing the following information to the Director:
 1. A copy of the solar access permit and the plot plans submitted with the permit; and

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2. The legal description of the lot(s) on which alleged non-exempt vegetation is situated, the address of the owner(s) of that property, and a scaled site plan of the lot(s) showing the non-exempt vegetation; and
 3. Evidence the vegetation violates the solar access permit, such as a sunchart photograph, shadow pattern, and/or photographs.
- B. Enforcement process. If the Director determines the request for enforcement is complete, he or she shall initiate an enforcement action pursuant to applicable provisions of the Milwaukie Municipal Code. The Director shall not enforce the permit provisions where a property owner can show that vegetation was in the ground on the date the permit application was filed with the City.

1705.08 Expiration and Extension of a Solar Access Permit

- A. Expiration. Every permit issued by the Director under the provisions of this Section shall expire if the construction of the solar feature protected by such permit is not commenced within 180 days from the date of such permit, or if the construction of the solar feature protected by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days. Before such work can be recommenced, a new permit shall be first obtained to do so, and the fee therefor shall be one half the amount required for a new permit for such work, provided no changes have been made or will be made in the original plans and specifications for such work; and provided further that such suspension or abandonment has not exceeded one year. If the permittee does not show construction of the solar feature will be started within 180 days of the date of the permit or the extension, or if the solar feature is removed, the Director shall terminate the permit by recording a notice of expiration in the Office of the County Recorder with the deeds to the affected properties.
- B. Extension. Any permittee holding an unexpired permit may apply for an extension of the time within which he or she may commence work under that permit. The permittee shall state reasons that can be deemed to be good and satisfactory by the Director. The Director may extend the time for action by the permittee for a period not exceeding 180 days upon written request by the permittee showing that circumstances beyond the control of the permittee have prevented action from being taken. No permit shall be extended more than once.